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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/682,088  
Filing Date: October 10, 2003  
Appellant(s): MAHMOOD ET AL.

\_\_\_\_\_  
Mark Starzomski  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 7/7/11 and  
6/7/11 appealing from the Office action mailed 12/6/10.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The following is a list of claims that are rejected and pending in the application: 1-29.

**(4) Status of Amendments After Final**

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

**(5) Summary of Claimed Subject Matter**

The examiner has no comment on the summary of claimed subject matter contained in the brief.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground

of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

**(7) Claims Appendix**

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

**(8) Evidence Relied Upon**

6,977,938	Alriksson	12-2005
20060123110	Dolganow	6-2006
20010010681	McAllister	8-2001
6,108,708	Iwata	8-2000
7,155,215	Miernik	12-2006
7,206,295	Seguin	4-2007

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8, 11, 12-18, 21-29 rejected under 35 U.S.C. 103(a) as being unpatentable over Alriksson (US 6,977,938) in view of Dolganow (US 2006/0123110) and McAllister (US 2001/0010681) and Iwata (US 6,108,708).

Regarding claims 1, 14, 24, 27, and 28 Alriksson teaches a method of routing packets from a wireless communications terminal (mobile networks, source routing, source determines sequence of hops each packet should traverse, col. 3 lines 3-8). Note, in source routing, the route is chosen at the source.

Although Alriksson teaches wireless links (mobile networks), the reference is silent on receiving, via a respective wireless link from at least one of a plurality of wireless access nodes forming a network, network information relating to links between nodes.

Like Alriksson, Dolganow teaches source routing. Furthermore, Dolganow teaches receiving, via a respective link from at least one of a plurality of access nodes forming a network, network information relating to links between nodes (advertising available resource information, source routing protocol uses available resource advertisements for identifying a path, abstract, resource information, available bandwidth, [0033], by understanding bandwidth information, source nodes generating connection set-up messages can route connection set-up messages in an intelligent manner, [0034]). Note, Alriksson teaches a source node A 30 in figure 1 ([0062]). As seen in the figure, the originating parties 10 are only connected to the source node. Therefore, the originating parties do not have a choice where to transmit and must always transmit to the source node.

Alriksson is silent on selecting a route via the network for packets from the terminal in dependence upon the network information and supplying packets with information relating to the selected route.

Dolganow teaches selecting a route via the network for packets from the 'source node' in dependence upon the network information and supplying packets with information relating to the selected route (source routing protocol uses the available resource advertisement for identifying a path, abstract, path selected by the source node, [0037], source node uses these metrics to choose the route, [0048]).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Alriksson by receiving, via a respective wireless link from at least one of a plurality of wireless access nodes forming a network, network information relating to links between nodes and selecting a route via the network for packets from the source node in dependence upon the network information, and supplying packets with information relating to the selected route, as suggested by Dolganow. This modification can be performed by transmitting available resource advertisement messages as shown by Dolganow. This modification would benefit the system by ensuring the

source nodes choose a route based upon the current available bandwidth between the links.

The combination is silent on the terminal selecting a route in dependence upon information dependent upon wireless communications between the terminal and at least one of the nodes.

McAllister, like Alriksson, teaches source routing. Furthermore, McAllister teaches the 'source node' selecting a route in dependence upon information dependent upon communications between the 'source node' and at least one of the nodes (source routing, link cost, [0007]). As seen in figures 1 and 2, the source node is node A. Note, User 1 does not have a choice where to transmit and must always transmit to node A.

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by selecting a route in dependence upon information dependent upon communications between the source node and at least one of the nodes, as shown by McAllister. This modification would benefit the system by ensuring that the chose route is affordable to the end user.



Although the combination teaches selecting a route from a 'source node', the combination is silent on selecting a route from the terminal.

Like Alriksson, Iwata teaches source routing. Furthermore, the reference teaches selecting a route from terminal (fig. 1 box 100, 120, col. 1 lines 47-49, col. 6 lines 39-41).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by selecting a route from the terminal, as shown by Iwata. This modification can be performed by having the network send the routing information to the terminals in order for the terminals to determine the optimal route. This modification would benefit the system in the case wherein the terminal is connected to a plurality of source nodes and the terminal will be able to decide which source node is optimal for routing. Furthermore, having the terminal select the route will speed up call setup.

Regarding claim 2, the terminal, monitoring a status of the selected route (Dolganow: source routing protocol uses the

available resource advertisement for identifying a path, abstract).

Regarding claim 3, in the terminal, receiving and monitoring network information to determine a status of the selected route and, selectively in dependence upon the determined status, selecting a new route via the network for packets from the terminal (Dolganow: source routing protocol uses the available resource advertisement for identifying a path, abstract).

Regarding claims 4 and 16, selecting a route including wireless communications between the terminal and a different one of the nodes (Alriksson: mobile networks, source routing, col. 3 lines 3-6).

Regarding claims 5, 6, the links between the nodes comprise wireless communications links (Alriksson: mobile networks, source routing, col. 3 lines 3-6).

Regarding claims 7, 17, 21, and 23, in addition to the limitations already addressed, the network information comprises

Quality of Service parameters (McAllister: quality of service, [0007]).

Regarding claims 8 and 18, network information comprises an available bandwidth for each link between nodes in at least a part of the network (Dolganow: resource information, available bandwidth, [0033]).

Regarding claims 11, 12, 22, 25, and 29, a wireless communications terminal arranged for operation in accordance with the method of claim 4 (Alriksson: mobile networks, source routing, col. 3 lines 3-6).

Regarding claims 13 and 26, a plurality of wireless access nodes, a plurality of links between nodes for packet communications in the network, and at least one wireless communications terminal as claimed in claims 12, 25 for wireless communications with the wireless access nodes, the wireless access nodes being arranged for supplying to the terminal said network information relating to links between the nodes (Alriksson: mobile networks, source routing, col. 3 lines 3-6).

Regarding claim 15, in the terminal, monitoring network information to determine a status of the selected route and, selectively in dependence upon the detected status, selecting a new route via the network for packets from the terminal (Dolganow: advertising available resource information, source routing protocol uses available resource advertisements for identifying a path, abstract, resource information, available bandwidth, [0033]).

3. Claims 9 and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Alriksson, Dolganow, McAllister, and Iwata as applied to claims 6 and 14 above, and further in view of Miernik (US 7,155,215).

Although the combination teaches network information, the combination is silent on network information comprises a current delay for each link between nodes in at least a part of the network.

Miernik teaches the network information / QoS, comprises a current delay for each link between nodes in at least a part of the network (QoS, delays, connections).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by incorporating a link delay component in determining the QoS for each route, as suggested by Miernik. This modification can be performed in software. This modification would benefit the system since link delay is an integral determinant in the QoS for data being transmitted over a network.

4. Claims 10 and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Alriksson, Dolganow, McAllister, and Iwata as applied to claims 6 and 14 above, and further in view of Seguin (US 7,206,295).

Although the combination teaches network information, the combination is silent on network information comprises an error rate for each link between nodes in at least a part of the network.

Sequin teaches QoS as a function of the error rate (col. 4 lines 25-28).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by incorporating an error rate component in determining the QoS for each route, as suggested by Sequin. This modification can be

performed in software. This modification would benefit the system since the error rate is an integral determinant in the QoS for data being transmitted over a network.

**(10) Response to Argument**

The Examiner disagrees with the appellant's comment, "it is particularly relevant that Dolganow does not disclose or pertain to a wireless terminal having functionality recited in claim 1" (appellant: pg. 14 top paragraph). As previously stated in the final office action, Alriksson teaches source routing in a wireless environment (col. 3 lines 3-8). Like Alriksson, Dolganow teaches source routing. Furthermore, Dolganow teaches the limitation:

receiving, via a respective link from at least one of a plurality of access nodes forming a network, network information relating to links between nodes (advertising available resource information, source routing protocol uses available resource advertisements for identifying a path, abstract, resource information, available bandwidth, [0033], by understanding bandwidth information, source nodes generating connection set-up

messages can route connection set-up messages in an intelligent manner, [0034]).

Note, Dolganow teaches a source node / "Originating Switch A 30" in figure 1 ([0062]). As seen in the figure, Dolganow shows an exemplary case wherein the originating parties 10 are only connected to the source node. Therefore, the originating parties do not have a choice where to transmit and must always transmit to the source node. As stated in the final office action, Iwata teaches in source routing the route being selected from the terminal (fig. 1 box 100, 120, col. 1 lines 47-49, col. 6 lines 39-41).

The appellant is arguing, with respect to McAllister, limitations that are not found in the claims. The appellant argues, "Clearly, there is no discussion in McAllister regarding using 'information dependent upon wireless communications between the terminal and at least one of the nodes (pg. 14 1st full paragraph)' (emphasis added), which includes last hop wireless link conditions between the wireless terminal and an

access node of the network, in selecting a route for the packet". It must be noted the claimed limitation states:

***the terminal selecting a route in dependence upon information dependent upon wireless communications between the terminal and at least one of the nodes.***

Nowhere does the claimed limitation state "***last hop wireless conditions between the wireless terminal and an access node of the network***". McAllister, like Alriksson, teaches source routing. Furthermore, McAllister teaches the 'source node' selecting a route in dependence upon information dependent upon communications between the 'source node' and at least one of the nodes (source routing, link cost, [0007]). As seen in figures 1 and 2, the source node is node A. Note, McAllister shows an exemplary case wherein User 1 does not have a choice where to transmit and must always transmit to node A.

The appellant contends, "since the network information is recited as being received by the terminal and the information



dependent upon wireless communications is not recited as being received at the terminal, the information dependent upon wireless communications **is inherent** to the terminal resulting from wireless communications with a one hop away network node" (appellant: pg. 14 last paragraph). However, the appellant does not prove **inherency** and if the appellant wishes for the limitation to be part of the claim, then the appellant must place the limitation into the claim!

The appellant also contends, "Furthermore, since the 'information' is recited as information that is dependent upon wireless communications between the terminal and at least one of the nodes, Appellants submit that this is information based on a link between the terminal and at least one node (pg. 14 last paragraph). However, once again, **the appellant is arguing limitations that are not in the claims**. If the appellant wishes for the 'information based on a link between the terminal and at least one node', then he must place the limitation within the claim!

Regarding appellant's discussion of the term 'inherent' (pg. 15 1<sup>st</sup> full paragraph). Once again, if the appellant wishes

for the limitation to be part of the claim, then the appellant must place the limitation into the claim.

The Examiner disagrees with the appellant's contention, "the Examiner's selection of Alriksson is based on hindsight selection solely for its disclosure of a wireless terminal" (pg. 16 2nd paragraph). Alriksson demonstrates source routing in a wireless environment was well known in the art at the time of the instant application. In the same paragraph, the appellant contends none of the limitations of claim 1 are disclosed in Alriksson. However, the body of claim 1 recites a wireless link and Alriksson teaches source routing in a wireless environment. Therefore, the appellant's assertion is incorrect.

Regarding the appellant's assertion, "at least two of the other references perform source routing of a type that teaches away from Alriksson" (appellant: pg. 16 last paragraph). However, the appellant has not stated why the references "teach away".

The appellant asserts, "Regardless of whether the reference shows that source routing in a wireless environment was well

known at the time of the instant application, it does not teach any of the limitations of the body of the claim" (appellant: pg. 17 1<sup>st</sup> paragraph). The Examiner maintains the appellant's claims are an obvious implementation of source routing in a wireless environment. Therefore, the Examiner maintains the appellant's assertion is without merit.

The appellant further contends, "there is no suggestion of a desirability of the claimed invention in the references that would serve as a reason for one skilled in the art to combine the references" (appellant: pg. 17 2<sup>nd</sup> paragraph). As stated above, the Examiner maintains the appellant's claims are merely an obvious implementation of source routing in a wireless environment. Regarding the appellant's contention, "Examiner has failed to provide a suitable explanation of why one would combine the four cited references when at least two of the references being relied upon for the majority of the steps are unrelated to wireless communications" (pg. 17 2<sup>nd</sup> paragraph), as stated previously the Examiner maintains the appellant's claims are merely an obvious implementation of source routing in a wireless environment.

Regarding the appellant's statement, "McAllister does not disclose true 'source routing' of a network node, let alone a wireless terminal that makes an entire route selection to be followed. It is only a portion of the background that makes reference to source routing from a network node" (appellant: pg. 18 1<sup>st</sup> paragraph). The Examiner maintains this statement is misleading. Regarding McAllister, the final office action only relies on paragraph [0007], which clearly teaches source routing.

Appellant restates his position that Dolganow and McAllister do not operate in the same manner as Alriksson (pg. 18 2nd paragraph). However, as stated above, all the references teach source routing.

Regarding appellant's contention, "The Examiner suggests that it would have been obvious if the source node were connected to more than one Originating Switch or Node A for routing information to be sent to the source node so that the source node could optically select a route. It is unclear why the Examiner is alleging that such an assumption would be

obvious for each of the two separate references, neither of which suggests such a scenario. If it was to be considered obvious, as suggested by the Examiner, Appellants submit that at least one of the two references would have suggested such an example" (pg. 19 top of page). However, it is common, in a wireless environment for a source node / "wireless terminal" to have the ability to connect to more than one Originating Switch / Base Station. In mobile assisted handoff, the mobile determines which Originating Switch / Base Station it prefers to be connected to.

Regarding the appellant's contention, "each of Dolganow and McAllister teach away from a wireless terminal receiving network information and selecting a routing path for a packet based on network information and information dependent upon wireless communications between the terminal and at least one of the nodes" (appellant: pg. 19 1<sup>st</sup> paragraph). As stated previously, Iwata teaches source routing wherein the routing decision is performed at the wireless terminal.

Regarding appellant's contention, "Appellants maintain that an attempt to combine references that disclose source routing in a wireless terminal and references that disclose source routing in a network node would result in at least one of those references not operating in a manner as intended, especially in view of the benefits of the wireless terminal having knowledge of the last hop wireless communication link that the network node does not have" (appellant: pg. 19 2<sup>nd</sup> paragraph). As is clear in the final office action, the combination of the references would result in a system performing source routing wherein the route is chosen at the wireless terminal. Furthermore, as stated previously, "the wireless terminal having knowledge of the last hop wireless communication link" is not part of the claimed invention.

Regarding the appellant's comment, "If it were obvious to one skilled in the art to combine the references, as alleged by the Examiner, then it would seem likely that the McAllister and Dolganow applications would have suggested the possibility of the users and Originating Parties, respectively, performing the source routing, as the applications both having filing dates subsequent to the Iwata issue date: (appellant: pg. 20 top of

page). However, this is an unsubstantiated allegation by the appellant and not supported by proof.

Regarding appellant's assertion, "Appellants submit that the onus is on the Examiner to find examples of where Dolganow and/or McAllister disclose that source routing could be performed by the end user or why it would be obvious to combine them in view of the fact that end user source routing was allegedly known at least at the time of Dolganow and McAllister and they did not consider it significant enough or simple or straight forward enough to disclose alternative embodiments with end user source routing (appellant: pg. 21 top of page). However, as stated in the final office action, "This modification would benefit the system in the case wherein the terminal is connected to a plurality of source nodes and the terminal will be able to decide which source node is optimal for routing. Furthermore, having the terminal select the route will speed up call setup".

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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Primary Examiner

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